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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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PierCarlo Molta

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EXAMINER

SMITH, MATTHEW J

ART UNIT

PAPER NUMBER

3635

MAIL DATE

DELIVERY MODE

10/03/2011

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/587,096	Applicant(s) MOLTA ET AL.	
	Examiner Matthew J. Smith	Art Unit 3635	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 August 2011.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 5) ☒ Claim(s) 41-79 is/are pending in the application.
- 5a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 6) ☒ Claim(s) 45-55 and 59 is/are allowed.
- 7) ☒ Claim(s) 41-44, 56-58, and 60-79 is/are rejected.
- 8) ☐ Claim(s) ____ is/are objected to.
- 9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 41-44, 56-58, 60, 61, 65-67, 72-74, and 79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilcox (3442750) in view of Coogan (7055288).

Wilcox discloses a membrane body Fig. 6, comprising a first panel 10 and a second panel 10a connected together in an adhesive manner by respective facing faces; tie rods 12 stably arranged between the panels according to a set pattern; each tie rod having respective end portions; the tie rod longitudinally free between the panels (col. 6, lines 58-64); the tie rod resisting a dual tensile membrane stress acting on each of the pair of panels and keeping the panels substantially free of tension during use; the second panel 10a covering the face of the first panel 10 in such a way that the second panel adheres integrally to the first panel; the tie rod being fibres free of a set material and longitudinally freely slidable (col. 6, lines 58-64); the first panel having a set shape; the two panels connected together through adhesive covering material; the tie rod free fibres organized in the form of roving; the two panels connected by covering adhesive material 13 suitable to react in a thermoplastic manner; each pair of panels delimited at the top and bottom by a first and by a second edge; the free fibres are glass (col. 2, line 40); and insulation means formed of an external portion of a roving of the tie rod.

This reference also discloses a method for construction of a membrane body comprising: assigning a shape to a first adhesive panel of laminated material provided with at least an adhesive face; applying flexible longitudinal bodies onto the first adhesive face according to a set pattern; protecting the flexible longitudinal bodies with a second panel; increasing the adhesive property of the first panel first face to fix in position the flexible longitudinal bodies and the first and second panels; a tie rod having fibres of a set composition to leave the tie rod free to slide longitudinally in relation to its relative insulation means and to the first panel and second panel and able to resist normal stress to free the two panels from membrane stress; covering the first face of the first panel with the second panel in such a way that the second panel adheres integrally to the first panel; applying flexible longitudinal bodies onto the first adhesive face by applying rovings of free fibres to the first face according to a set pattern; subdividing the free fibres of the roving into two distinct portions substantially coaxial to each other; protecting the roving, followed by stably connecting together the first and second panels; making stable the positioning of the rovings of free fibres between the two panels in an adhesive manner through the application of pressure; increasing an adhesive property of the first face preceded by the phase of distributing an adhesive material on the first face; and the free fibres are made from glass.

This reference does not disclose insulation means between the panels and associated with each the tie rod to leave the tie rod longitudinally free between the panels, the insulation means the same material as the tie rod, the insulation means comprise a plurality of flexible sheaths arranged between the respective panels along

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force lines, each sheath housing a corresponding tie rod in a longitudinally free manner, the tie rod comprises a plurality of fibres free of at least a set material, that are arranged inside one the sheath in such a way as to be longitudinally freely slidable, or the sheath has an annular section.

Coogan shows a structural reinforcing member using insulation means 10 within a member and associated with a tie rod 28 to leave the tie rod longitudinally free; the insulation means being flexible sheaths 10 between and within a member along force lines; each sheath housing a corresponding tie rod in a longitudinally free manner; tie rod having fibres free of a set material and inside one sheath in such a way as to be longitudinally freely slidable; and the sheath has an annular section.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to sheath the Wilcox reinforcing fibers, as shown by Coogan, in order to eliminate eccentric forces (Coogan, col. 1, lines 35-36).

It would have been further obvious to fabricate the sheath using any material, including the tie rod material, as long as the tie rod would have been free to move.

Claim 62 is rejected under 35 U.S.C. 103(a) as being unpatentable over Wilcox in view of Coogan as applied to claim 41 above, and further in view of Kavesh et al. (5006390).

The combination discloses the invention substantially as claimed but not each face has increased wettability through the application of a Corona treatment.

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Kavesh et al. discuss a sheet having increased wettability through the application of a Corona treatment (col. 9, line 27).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to treat the combined panels, as discussed by Kavesh et al., in order to improve strength.

Claims 63, 69, 70, and 77 are rejected under 35 U.S.C. 103(a) as being unpatentable over Linville (4945848) in view of Wilcox and Coogan.

Linville discloses a sail having panels 22, 26, and tie rods 28; the panels connected together in an adhesive manner by respective facing faces; tie rods stably between the panels according to a set pattern; each the tie rod having respective end portions; and a sailcloth delimited by respective side edges converging in a peak and by a base edge.

Linville also discloses a method for construction of sails including at least one membrane body including at least a first panel and a second panel connected together in an adhesive manner by respective facing faces and tie rods arranged stably between the panels according to a set pattern; each tie rod having respective end portions; protecting the roving followed by stably connecting together the first and second panels; making stable the positioning of the rovings of free fibres between the two panels in an adhesive manner through the application of pressure; and stably connecting the tie rods to the first and second panels through respective tie rod end portions through heat.

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This reference does not disclose the body further comprising insulation means arranged between the panels and associated with each the tie rod to leave the tie rod longitudinally free between the panels, the tie rod being suitable for resisting a dual tensile membrane stress acting on each of the pair of panels, keeping the panels substantially free of tension during use, the second panel covering the face of the first panel in such a way that the second panel adheres integrally to the first panel, insulation means arranged between the panels and associated with each the tie rod to leave the tie rod longitudinally free between the panels; the tie rod being suitable for resisting a dual tensile membrane stress acting on each of the pair of panels, and keeping the panels substantially free of tension during use; the second panel covering the face of the first panel in such a way that the second panel adheres integrally to the first panel; at least one sailcloth, delimited by respective side edges converging in a peak, and by a base edge; the method comprising a phase of assigning a set shape to at least one first adhesive panel of laminated material and provided with a first adhesive face; applying a plurality of rovings of free fibres to the first face according to a set pattern; protecting each the roving, by covering the first face of the first panel with a second panel in such a way that the second panel adheres integrally to the first panel and subdividing the free fibres of the roving into two distinct portions substantially coaxial to each other, to make a sheath with a first portion of the free fibres and a tie rod with a second portion of the free fibres, or the sheath being suitable for isolating the tie rod from the first and second panels, in such a way as to leave the tie rod free to slide longitudinally in relation to the

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first panels and second panels and to resist normal stress to flee the two panels from membrane stress

Wilcox presents a tie rod longitudinally free between the panels (col. 6, lines 58-64); the tie rod resisting a dual tensile membrane stress acting on each pair of panels and keeping the panels substantially free of tension during use; the second panel 10a covering the face of the first panel 10 in such a way that the second panel adheres integrally to the first panel; the tie rod being fibres free of a set material and longitudinally freely slidable (col. 6, lines 58-64); the first panel having a set shape; the two panels connected through adhesive covering material; the free fibres in the form of roving; the two panels connected by covering adhesive material 13 suitable to react in a thermoplastic manner; pairs of panels, each the pair of panels being delimited at the top and bottom by a first and by a second edge; and the free fibres are glass (col. 2, line 40).

Coogan shows a structural reinforcing member using insulation means 10 within a member and associated with a tie rod 28 to leave the tie rod longitudinally free within the member; the insulation means being flexible sheaths within a member along force lines, each sheath housing a corresponding tie rod in a longitudinally free manner; tie rod having fibres free of a set material and inside a sheath longitudinally freely slidable; and the sheath has an annular section.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to allow the Linville reinforcing members to move freely via a

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sheath, as presented by Wilcox and shown by Coogan, respectively, in order to facilitate minimizing tearing and eliminating eccentric forces, respectively.

Claim 64 is rejected under 35 U.S.C. 103(a) as being unpatentable over Weitzel (2932121) in view of Wilcox and Coogan.

Weitzel discloses an awning having panels 34, 36 and tie rods 16; the panels connected together in an adhesive manner by respective facing faces; tie rods stably between the panels according to a set pattern; each the tie rod having respective end portions; the panels connected by an adhesive at respective facing faces; the tie rods arranged stably between the panels according to a set pattern; each tie rod having respective end portions; but not the insulation means arranged between the panels and associated with each the tie rod to leave the tie rod longitudinally free between the panels, the tie rod suitable for resisting a dual tensile membrane stress acting on each of the pair of panels and keeping the panels substantially free of tension during use, the second panel covering the face of the first panel in such a way that the second panel adheres integrally to the first panel.

Wilcox presents a tie rod longitudinally free between the panels (col. 6, lines 58-64); the tie rod resisting a dual tensile membrane stress acting on each of the pair of panels and keeping the panels substantially free of tension during use; the second panel 10a covering the face of the first panel 10 in such a way that the second panel adheres integrally to the first panel; the tie rod being fibres free of a set material, longitudinally freely slidable (col. 6, lines 58-64); the first panel has a set shape; the two

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panels connected through adhesive covering material; the free fibres of each tie rod in the form of roving; the first panel having a set shape, the two panels connected by covering adhesive material 13 to react in a thermoplastic manner; pairs of panels, each the pair of panels being delimited at the top and bottom by a first and by a second edge; and the free fibres are glass (col. 2, line 40).

Coogan shows a structural reinforcing member using insulation means 10 within a member and associated with a tie rod 28 to leave the tie rod longitudinally free within the member; the insulation means being flexible sheaths within the member along force lines, each sheath housing a corresponding tie rod in a longitudinally free manner; tie rod having fibres free of a set material and inside a sheath to be longitudinally freely slidable; and the sheath has an annular section.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to allow the Weitzel reinforcing members to move freely via a sheath, as presented by Wilcox and shown by Coogan, respectively, in order to facilitate minimizing tearing and eliminating eccentric forces, respectively.

Claims 68, 71 and 78 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilcox in view of Coogan as applied to claims 66 and 70 above, respectively, and further in view of Meldner (5333568).

The combination discloses the invention substantially as claimed but not the phase of stably connecting the first and second panel is performed through the delivery

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of heat or the phase of stably connecting the tie rods to the first and second panels through respective end portions of the tie rods is performed cold.

Meldner describes two panels connected via a technique through the delivery of heat (col. 11, line 56) or via UV light (col. 11, line 56).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to connect the combined panels in the manner described by Meldner in order to laminate the panels.

Claims 75 and 76 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilcox in view of Coogan as applied to claim 72 above, and further in view of Rauch (4309464).

The combination discloses the invention substantially as claimed but not the adhesive material selectively comprises an acrylic or rubber resin compound or a copolymer similar to PET or the acrylic compound is in the form of a gel.

Rauch depict an adhesive material made of an acrylic compound in the form of a gel (col. 3, line 60).

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to use an acrylic gel adhesive, as depicted by Rauch, in order to have a clear texture.

Allowable Subject Matter

Claims 45-55 and 59 are allowed.

Response to Arguments

Applicant's arguments filed 5 August 2011 have been fully considered but they are not persuasive. The examiner contends Coogan provides the same solution as applicants' problem of a reinforcing material binding to the surrounding structure. Reinforcing designs are not considered limited to concrete, sails, or awnings. While applicants' insulation does not address eccentric forces, the motivation to combine is not limited the same motivation as applicants. Also, since the scope of the invention is "a membrane body", any membrane body of any material would have been pertinent.

Linville is considered pertinent since applicants' claim the method of constructing sails and Linville discloses a method similar in scope to applicants.

Weitzel is considered pertinent since applicants' claim an awning and Weitzel discloses an awning similar in scope to applicants.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew J. Smith whose telephone number is (571)272-7034. The examiner can normally be reached on T-Th, 8-3.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eileen D. Lillis can be reached on 571-272-6928. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/EILEEN D LILLIS/
Supervisory Patent Examiner,
Art Unit 3635

/M. J. S./
Examiner, Art Unit 3635
21 September 2011